EXHIBIT F

TDX CONSTRUCTION CORPORATION
Baruch College Field Office 137 East 25th Street, 6th Floor, New York, NY 10010
212 679 0031
212 679 0037 FAX
www.tdxconstruction.com

March 7, 2003

Trataros Construction, Inc.
664 64th Street
Brooklyn, NY 11220
Attn: Athena Curis

RE: Baruch College - Site "B"
Contract #16 – GC #2
Epoxy Terrazzo – Uplift/Debonding

Dear Athena:

Transmitted is a preliminary copy of the report generated by Testwell Laboratories on the terrazzo site investigation. Testwell's observation of the debonding shows the epoxy membrane separating from the substrate, which suggests a potential failure of the terrazzo system. Additional laboratory testing of the samples retrieved on Thursday, February 27, 2003, have been requested to help determine possible causes for the uplifting terrazzo.

This serious matter deserves your full cooperation, due to the potential repercussions of what has been found to date, plus the extent of the affected areas. This office has notified your subcontractors, G.M. Crocetti, Inc. and Bartec Industries, Inc., concerning Testwell's findings to date, and the ongoing investigation.

In closing, Trataros Construction, being the General Contractor, will be held responsible for all conditions, should final analysis show G.M. Crocetti's system failure was due to poor workmanship; not to mention the potential problem posed by the underlayment subcontractor, Bartec, and its recommended product, Conflow, for floor-leveling. Therefore, it would be to your utmost benefit to take an active role in this issue.

I look forward to your timely response.

Respectfully,
TDX Construction Corporation

Tom Spinthourakis

TS/lc
Enclosure

cc: N. D'Ambrosio
W. Markowitz
J.H. Jones
J. McCullough
R. Leu

Ltr Trataros Epoxy Terrazzo 3-7-03

TESTWELL LABORATORIES, INC.
CORPORATE HEADQUARTERS: 47 HUDSON STREET, OSSINING, N.Y. 10562
PHONE: (914) 762 - 9000 www.testwellabs.com FAX: (914) 762 - 9638

PRELIMINARY SITE INVESTIGATION REPORT

Client:	TDX Construction Corp.	Lab #:	Pending
Project:	Baruch College - Site B	Report #:	ML-01
Address:	55 Lexington Avenue New York, New York	Field Visit Date:	03/04/03
		Report Date:	03/05/03
Construction Type:	Terrazzo flooring system on concrete slab	Petrographer:	J. Walsh
		Page 1 of 10	

1. INTRODUCTION

At the request of Tom Spinthourakis of TDX Construction Corporation, a site visit was made at Baruch College, New Campus Site B at 25th Street and Lexington Avenue, New York on March 4, 2003. The purpose of the visit was to investigate a debonding condition evident in an epoxy-based, cast in place terrazzo flooring system. TDX Construction had previously removed seven probes throughout the building by sawcutting debonded portions of the system past the failed sections and removing solid samples. The probes were carefully covered with pressboard and sealed with duct tape. Probes were identified by TDX Construction according to floor level (B1, 1G, 1N, 2W, 2E, 7, and 12). Probe locations are filed with TDX Construction. The samples were labeled and stored in the onsite Facilities Office in an organized manner.

The site visit included the following components:

1) A 2.5 hour walk-through of the probe locations where all probes were exposed and studied. The immediate vicinity of each location was also examined in a cursory manner to assess the magnitude of the condition.
2) A briefing with TDX project management to discuss preliminary findings and possible analyses.
3) A perusal with Tom Spinthourakis of relevant job specifications and materials specification sheets.
4) A subsampling of six of the seven probe locations to collect representatives of all conditions observed in the field. Subsampling was agreed to between the author and Tom Spinthourakis.
5) Identification of four coring locations for future sampling. The samples will be held for petrographic analysis if such analysis is requested by TDX Construction.

2. PLACEMENT HISTORY

According to Tom Spinthourakis, all construction at the site is relatively recent. The concrete slabs on which the terrazzo system was placed were cured in excess of 28 days before the flooring was installed. The terrazzo system was installed approximately one year ago under closed construction conditions with climate control already in place. The substrate was scarified or treated with one or more layers of self-leveling flooring (Conflow by Conspec) when required. No other pretreatments were clearly recalled. The substrate was coated by a roll-on epoxy membrane (FlexGuard by TEC). A gridwork of adhesive was placed on which zinc strips were adhered. The terrazzo system (Tuff-Lite 5 by TEC) was field mixed and placed. After curing of the epoxy matrix, the terrazzo was ground and polished using diamond pad. The final finish was described as smooth with no small-scale imperfections. Some typical larger scale undulations were noted. The debonding condition was observed soon after and was defined by a curling of the terrazzo segments at the zinc strips.

3. FIELD OBSERVATIONS

The following observations were made by the author during the jobsite walk-through:

1) The placement history is suggested by observed field relationships. A lightweight slab on deck was placed. A surface consistent with a trowel finish is detected (i.e.; a smooth surface containing all cream and no raised fine aggregate). In some locations (1G and 1N) a deep scarification of the hardened slab was performed. In others (2E), some fine scouring is evident. In other locations (B1, 2W, 7, and 12) one or more layers of self-leveling compound were placed over the structural slab. A thin layer of gray epoxy membrane was placed. Zinc strip adhesive was placed before the epoxy membrane solidified. This is indicated by the indentation of the membrane by the adhesive (most clearly detected at probes 2E and 12). The zinc strips were embedded while the adhesive was uncured (also indicated by indentation). It would appear that the membrane, adhesive, and strips were all installed in quick succession as a single procedure as no other disruption of the membrane is detected. The terrazzo system was placed after all other components were hardened (not necessarily cured) and well compacted against the zinc strips. The hardened terrazzo system was ground and polished.
2) Most terrazzo segments are 2 x 4 feet in plan separated by zinc strips. The pattern varies in more open areas.
3) All debondings may be described as convex curlings of individual terrazzo segments. The greatest separation and deflection occurs at corners. Central edges are usually well adhered and segment centers are always adhered. No complete debondings of entire terrazzo segments are observed (see also note 8 below).
4) Certain corridors and areas display greater failure than others. In some places, the debonding condition is not apparent. Some degree of failure is observed at every floor level examined.
5) No obvious structural pattern of debonding is evident. That is to say that the failure does not tend to occur in the vicinity of doorways or in the center of a corridor for example. The occurrences are essentially random.
6) At each probe, the failure occurs between the epoxy membrane and the substrate. The debonding occurred cleanly without pulling out any portion of the substrate and rarely leaving any residue of the membrane behind. This condition exists whether the substrate is concrete slab or self-leveling flooring. It is also notable that no residue of the epoxy membrane is found within any negative relief areas of the substrate. Even where the

substrate is deeply scarified (1G and 1N), no relict of the epoxy membrane remains in the grooves.

7) Each of the recovered samples display some residual material at the lower surface of the epoxy membrane. Nowhere is the lower surface of the epoxy found to be "fresh".

8) Probe 2W exposes a section centered on a corner of four terrazzo segments. The original debonding (as opposed to that created by the sample removal) is clearly defined as a rounded cross. This indicates a regular ovate pattern of failure.

9) Some salt deposits are detected along the exposed substrate and these are always coincident with the zinc strip locations. These deposits clearly post-date placement and are probably related to the drying of cleaning solutions after separation of the terrazzo with the zinc strips occurred and fluid access to the substrate was permitted.

10) No other horizontal failures are noted in the terrazzo system. The zinc strip adhesive is well adhered to the epoxy membrane as well as the L-shaped zinc strips. Horizontal contacts between the terrazzo system and the zinc strips are all intact. No failures are detected between the epoxy membrane and the terrazzo system.

11) Some indication of failure between the slab and self-leveling flooring bond is noted. This is evidenced by clean separations at probe locations 7 and 12. Probe B-1 exposes a four corner contact. Sounding of the substrate revealed a debonding of the Conflow only below one corner of the four terrazzo segments. Samples of the debonded Conflow were recovered freshly from the substrate.

12) No significant vertically oriented fractures are detected in the main body of the terrazzo. Only one location was identified near the 25th Street entrance on the ground floor. The crack is perpendicular to the construction and was suggested by Tom Spinthourakis to be related to an underlying slab crack. The form of the crack is consistent with that interpretation. Other finer scale vertical cracking is rare and is associated with the "alligator texture" discussed below.

13) Other vertical cracking is strictly related to the clean separation of the terrazzo from the zinc strips. This is not considered a failure as the zinc grid is likely designed as a control joint system. Separations are detected even where debonding is not present. The separations are of hairline thickness unless curling of the terrazzo has occurred. It is noted that separation occurs on one side of the zinc strip. In some cases, the separation switches sides with a small overlap. This is consistent with horizontally oriented tensile stress release from separations propagating on either side of the strip. No "double-sided" separations are detected. The separations propagate vertically through the lower epoxy membrane.

14) A possibly unrelated condition is informally described as "alligator texture" and was pointed out by Tom Spinthourakis. The texture is observed more or less at all locations and is defined by a differential surface relief between the aggregate (in high relief) and the epoxy matrix (in low relief). The texture usually occurs at terrazzo segment edges but often juts into the main body of the terrazzo in a curving manner. At first, it was thought there might be a correlation between lower abundances of aggregate and the alligator texture but this correlation was not borne out by further site examination. In fact, it is sometimes observed where there is a locally high concentration of aggregate grains. According to TDX, the texture did not exist immediately following the finishing operation.

4. PRELIMINARY CONCLUSIONS

The scale of the failure is confined to within terrazzo segments and exhibits no coherent relationship to underlying structural units. Therefore, it is believed that the cause of the problem is limited to the flooring application and not larger scale movements or failures of the underlying structural slab. The morphology of the failure tends to be defined by a convex curling and an ovate pattern of debonding. This is consistent with deformation related to material shrinkage and this shrinkage is believed to be the primary *stress* leading to the debonding. However, shrinkage is supposed to be accommodated by failure along the zinc joints and it should be stressed that no suggestion is being made here that shrinkage was *necessarily* excessive. The debonding occurs strictly between the epoxy membrane and the substrate regardless of whether the substrate is lightweight concrete or self-leveling compound. Furthermore, the debonding is usually complete with no residual epoxy membrane adherent to the substrate even where scarified. Clearly, the epoxy-substrate bond is the weakest in the system. This weak bond appears to be exploited by the natural material shrinkage.

There appears to be some evidence of residues below the epoxy membrane and this is an area for further investigation. Incomplete cleaning of the substrate may be responsible for a weak epoxy bond. This seems likely particularly where the concrete slab is scarified and the membrane has not even adhered to the rough grooves of the preparation. In terms of materials, there does not appear to be any deviations from the manufacturer's recommendations. It may be more difficult to determine whether or not a curing agent had been applied to the concrete.

The "alligator texture" may be related to shrinkage as the epoxy matrix is in lower relief relative to the aggregate. However, the distribution pattern is not very ordered and it may be difficult to relate this texture to shrinkage of the product.

5. SUGGESTIONS FOR FURTHER ANALYSES

A) Most laboratory analyses will not be able to assess the manufacturer's claims on material behavior. Empirical tests on fresh material would need to be performed. Results of such tests should be sought from the manufacturer as a first step.

B) A low power microscopic analysis of the field samples should be performed to investigate the nature of the lower epoxy surface. Some indications of contaminants or residues may be identified in such an analysis. Other bonding surfaces and microcracking may also be investigated.

C) Some "oily" looking residues were reported by Tom Spinthourakis and at least some suggestion of this is evident in the field samples as received. FTIR analysis can qualitatively identify the presence of organic functional groups and these can be compared to those reported in the MSDS sheets of the epoxy membrane. Any functional groups not belonging to the epoxy may be considered a contaminant.

D) A full petrographic analysis of fresh core samples may be desirable. Samples will be milled to 30 µm thickness in an intact condition and analysed under high power polarized transmitted light. The original undisturbed bonds can be assessed and any dust layers may be identified. Microscopic bonding of other components of the terrazzo system will be addressed as well as the nature and quality of the concrete substrate.

TESTWELL LABORATORIES, INC.

John J. Walsh
Petrographer

Kaspal R. Thumma, Eng. Sc. D. P.E.
Vice President/Laboratory Director
Krt/jjw

Samples will be discarded after three months unless otherwise instructed. This report is the confidential property of the client and any unauthorized reproduction is strictly prohibited. The interpretations and conclusions presented in this report are based on the samples provided.

Appendix I: Photographs

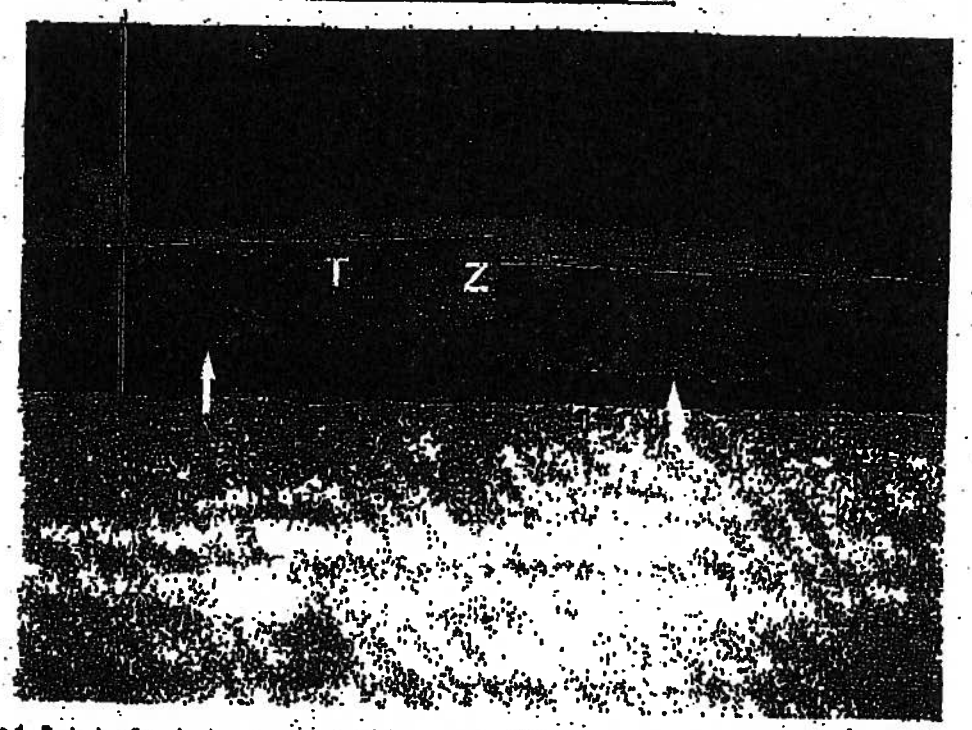

Figure 1: Probe location 1N. The arrows indicate the debonding site which always occurs between the epoxy membrane and the substrate. The epoxy membrane is too thin to see in a macroscopic photo cross section. (C = concrete, T = terrazzo, Z = zinc strip).

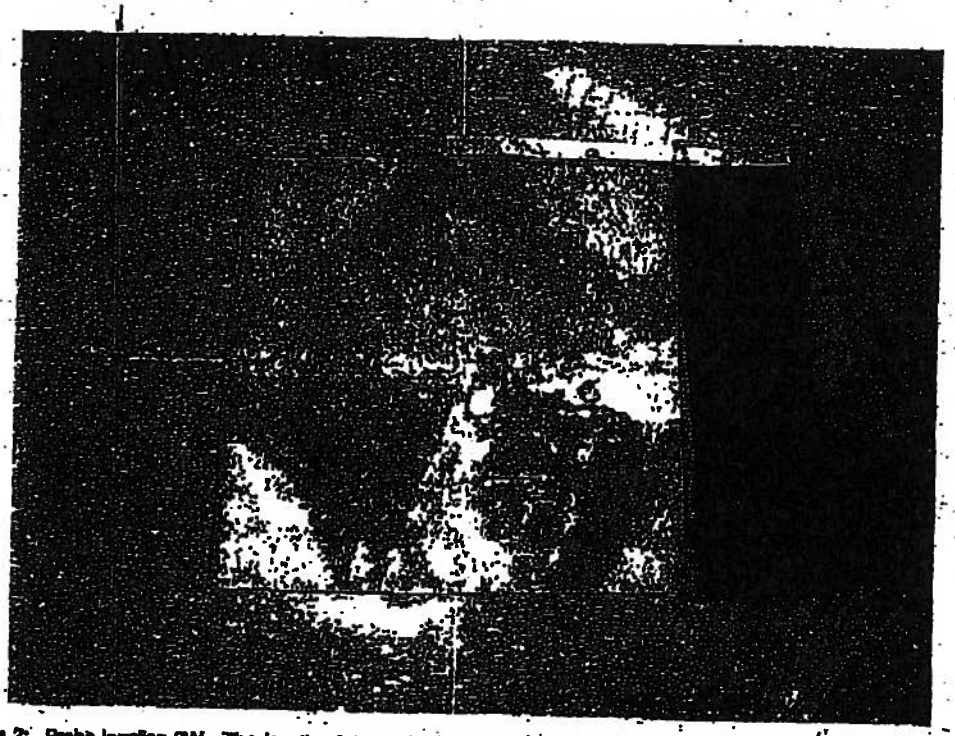

Figure 2: Probe location 2W. The location intersects the corners of four terrazzo segments. The dark rounded cross reflects where the epoxy debonded cleanly from the substrate. The lighter areas reflect "rip-ups" during sampling. The debonding pattern is consistent with that related to shrinkage.

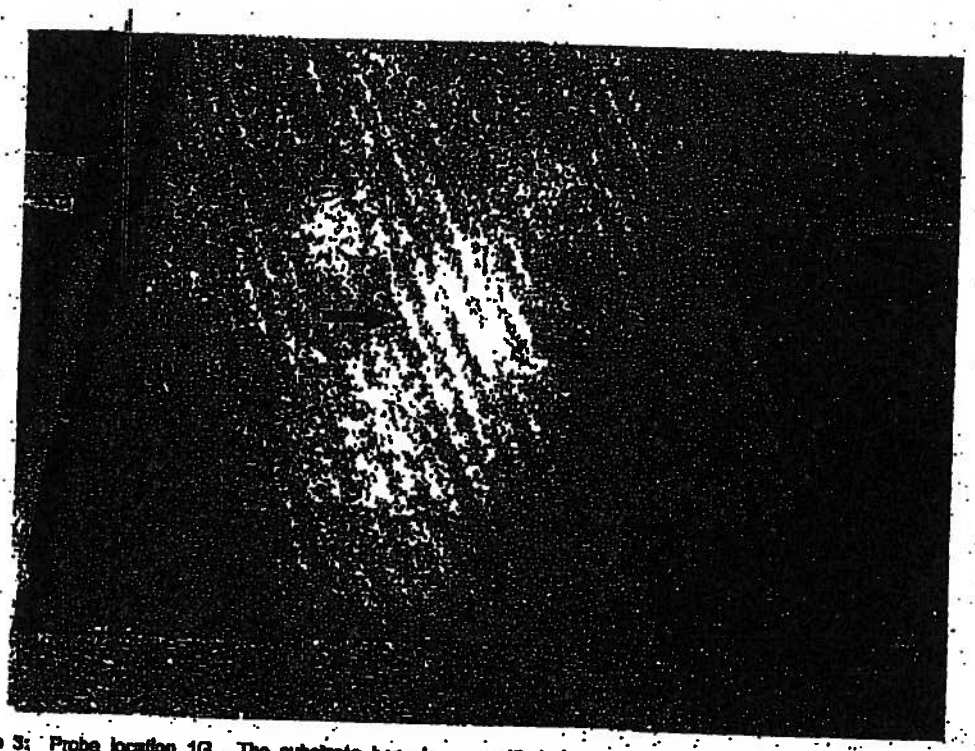

Figure 3: Probe location 1G. The substrate here is a scarified concrete slab and the arrow indicates one of the scarification grooves. No epoxy membrane is adherent along either the smooth troweled surface of the rugged grooves.

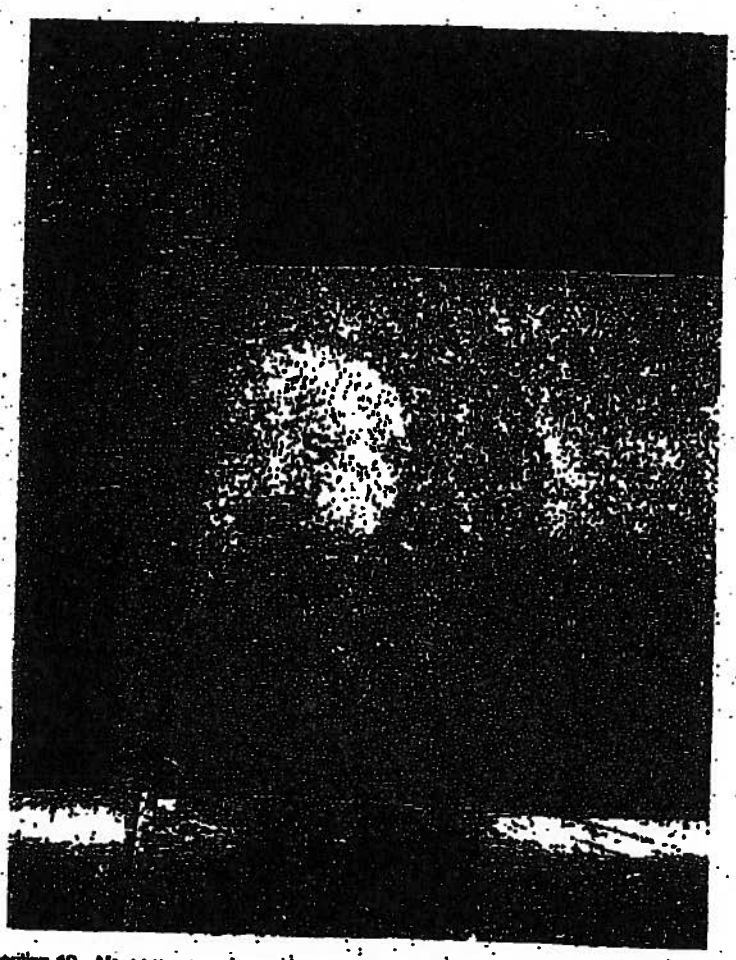

Figure 4: Probe location 12. No epoxy membrane is adherent to either the self-leveling compound (S) or the concrete substrate (C).

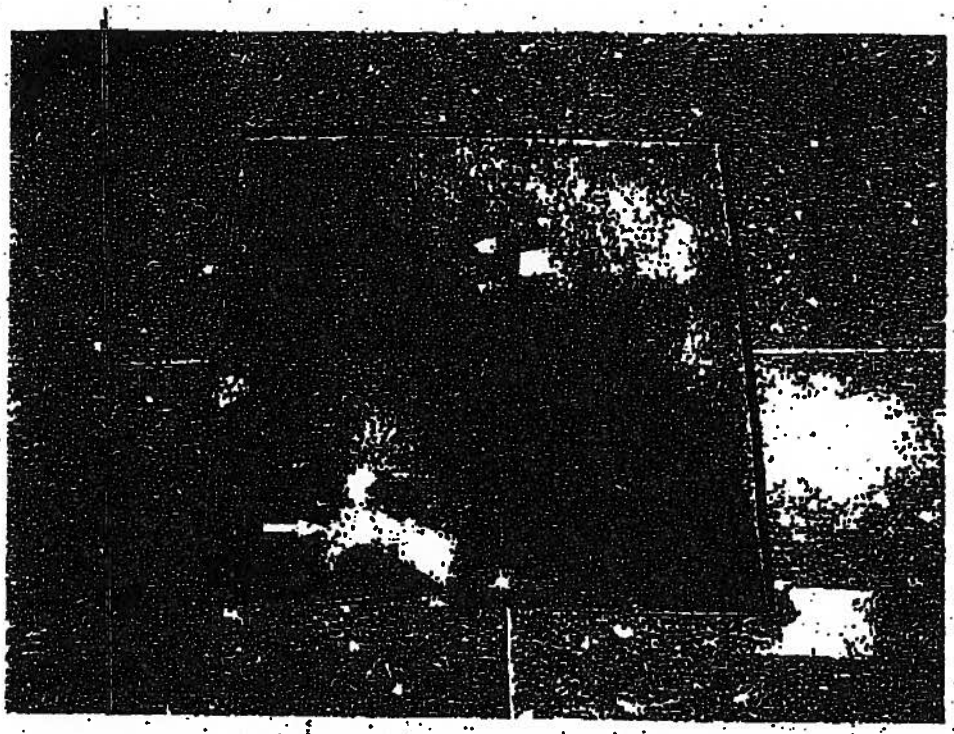

Figure 5: Probe location B1. The epoxy membrane is completely debonded from the smooth self-leveling compound surface. In the lower left quadrant (arrow), the self-leveling compound is clearly debonded from the concrete substrate. Sounding indicates that the debonding is present nearly everywhere below that one corner.